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Planting Seeds

EU Planting Seeds Report

2007

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Report Highlights:
Although a net exporter of planting seeds, the EU has a trade deficit with the United States. The main planting seeds exported to the EU are vegetable seeds, and grain and oilseed seeds. U.S. grain seeds exports have been under pressure. But new opportunities could evolve, as a result of demand in the New Member States for high quality seeds and increasing interest in genetically enhances maize varieties. Other opportunities for U.S. companies exist in specialty seed markets, such as organic seeds, seeds for vegetables produced in greenhouses, seeds for ornamentals and specialty grass seeds for golf courses and sports fields.

Includes PSD Changes: No
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EXECUTIVE SUMMARY

The EU market size for planting seeds is estimated at USD 6.1 billion. This season, 2006/2007, EU grain seed production is anticipated to increase due to the current high grain prices. Also the production of rapeseed for sowing is expected to increase as a result of the demand for rapeseed as a feedstock for biofuels. As a consequence of the increased acreage for grain seed production, EU grass seed production is expected to decline in 2007. Currently the market for grass seeds is in an oversupply situation.

During the past five years, EU planting seeds imports increased from USD 448 million in 2001/2002 to USD 578 million in 2005/2006. During the same time span, EU exports of planting seeds increased continuously from USD 421 million to USD 876 million. Both growth in imports and exports is mainly attributable to a strong increase in the transshipment of vegetable seeds. Due to the high land and labor costs, production of horticultural seeds is increasingly moved to other continents. The seeds are shipped to the EU for treatment, sampling and quality inspection and mostly re-exported to their final destination.

Although a net exporter, the EU has a trade deficit for planting seeds with the United States, which is the EU's leading supplier of planting seeds. During 2005/2006, EU imports of U.S. planting seeds declined significantly, mainly because of lower imports of hybrid corn seeds. Because of the possibility of adventitious presence of GMOs in planting seeds lots, European buyers are reluctant to purchase maize seeds from the United States. The main planting seeds exported by the United States to the EU are vegetable seeds, and grain and oilseed seeds, which account more than half of total U.S. planting seed exports to the EU.

Each EU Member State is required to maintain a national catalogue or list of approved varieties. The EC consolidates the national catalogues into a common catalogue. Varieties, which are not listed in a national or the common catalogue, cannot be legally marketed in the EU. Applications for plant breeders' rights (PBRs) and listing should be filed at the National Plant Variety Offices. The Community Plant Variety Right (CPVR) and national PBRs are the exclusive intellectual property rights available in the EU for the protection of plant varieties. The Community Plant Variety Office (CPVO) in Angers (France) implements and applies the system for the protection of plant variety rights in the EU. On the basis of one application to the CPVO, a breeder may be granted a single intellectual property right that is operative throughout the EU.

The regulations for marketing planting seeds are laid down in the Seed Directives of the European Commission (EC). The EC is assisted by the EU Member States in adopting amendments through the Standing Committee on Seeds and Propagating Material for

Agriculture, Horticulture and Forestry. Phytosanitary measures on imports of plant materials are laid down in Directive 2000/29/EC.

Conversion rates:

Year	USD	EURO
2000/2001	1	1.121
2001/2002	1	1.117
2002/2003	1	0.958
2003/2004	1	0.840
2004/2005	1	0.787
2005/2006	1	0.822

Season July / June

SECTION I. SITUATION AND OUTLOOK

The EU market size for planting seeds is estimated at USD 6.1 billion and employs about 30,000 people (source: European Seed Association and International Seed Federation). The annual R&D spending is estimated at 12 to 15 percent of the turnover. The main markets are France (USD 1.9 billion), Germany (USD 1.0 billion USD) and Italy (USD 0.8 billion). The Netherlands and France are the main importers and exporters of planting seeds in the EU (see tables below).

Import Value of Planting Seeds (thousand USD) Season July / June			
	2003/2004	2004/2005	2005/2006
Netherlands	342,578	371,308	327,985
France	382,183	376,134	302,716
Germany	378,001	352,306	288,013
Italy	290,181	315,412	241,690
Spain	245,370	261,043	239,821
United Kingdom	164,200	162,892	158,688
Belgium	111,181	149,962	119,405
Poland	95,525	133,085	91,327
Denmark	82,161	78,152	61,047

Source: Global Trade Atlas. Trade figures include EU-intra trade. During 2005/2006, possibly not all trade has yet been reported.

Export Value of Planting Seeds (thousand USD) Season July / June			
	2003/2004	2004/2005	2005/2006
Netherlands	838,995	873,530	786,559
France	631,175	727,889	650,280
Germany	368,740	389,898	345,232
Denmark	248,170	268,049	261,761
Italy	142,983	176,080	148,699
Belgium	128,038	136,951	106,321
Hungary	72,514	63,409	97,065
Spain	66,424	67,213	61,346
United Kingdom	58,264	65,788	53,722

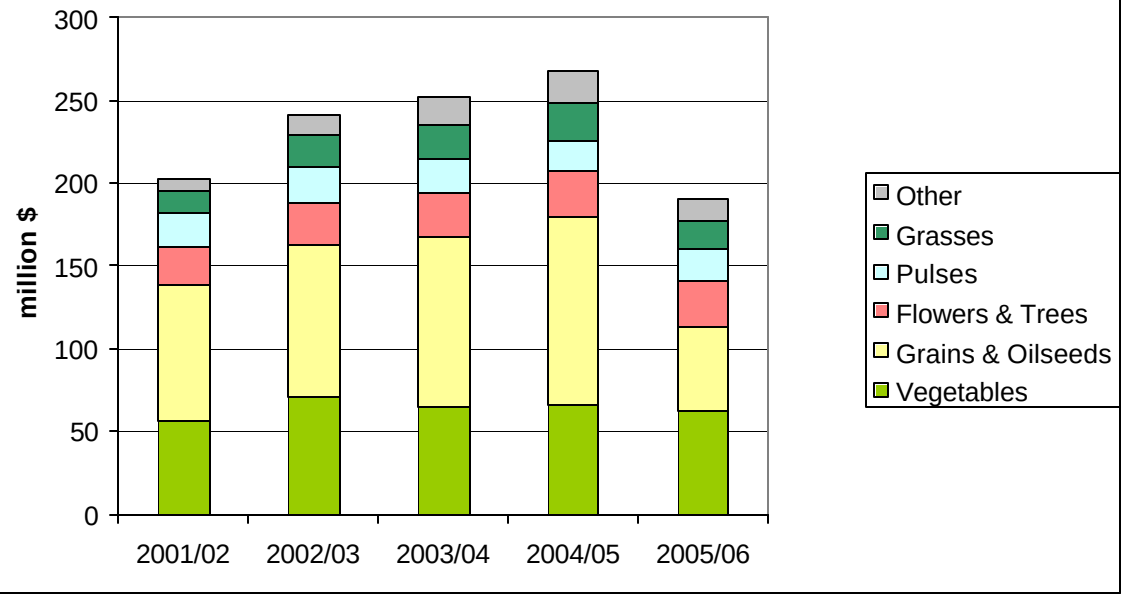
Source: Global Trade Atlas. Trade figures include EU-intra trade. During 2005/2006, possibly not all trade has yet been reported.

The EU became a net exporter of planting seeds in 2002/2003, and its trade surplus has gradually increased since then to USD 300 million in 2005/2006 (see graph 1). Although a net exporter, the EU has a trade deficit for planting seeds with the United States, which is the EU's leading supplier of planting seeds, before Chile and Turkey. The EU's trade deficit with the United States ranged from 135 to USD 165 million between 2001/2002 and 2004/2005, and was significantly cut down to USD 80 million in 2005/2006 (see graph 2). The main reason for this cut is the reduction in French imports of U.S. maize seeds. The main planting seeds exported by the United States to the EU are vegetable seeds, and grain and oilseed seeds, which account more than half of total U.S. exports to the EU (see graph 3). In the past few years, the market share for U.S. planting seeds out of total EU planting seed imports has been the highest for pulses, flowers and trees, and grasses, all above 45 percent since 2001/2002 (see graph 4). EU exports of planting seeds to the United States have increased significantly in the past five years, mainly due to shipments of vegetable seeds, which more than doubled (see graph 5).

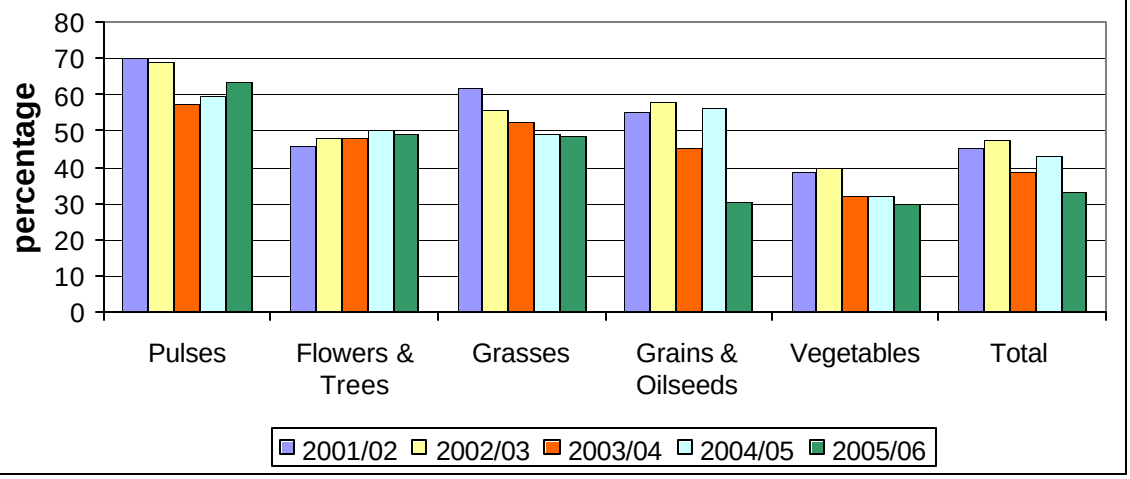
Graph 1. Total EU Trade for Planting Seeds

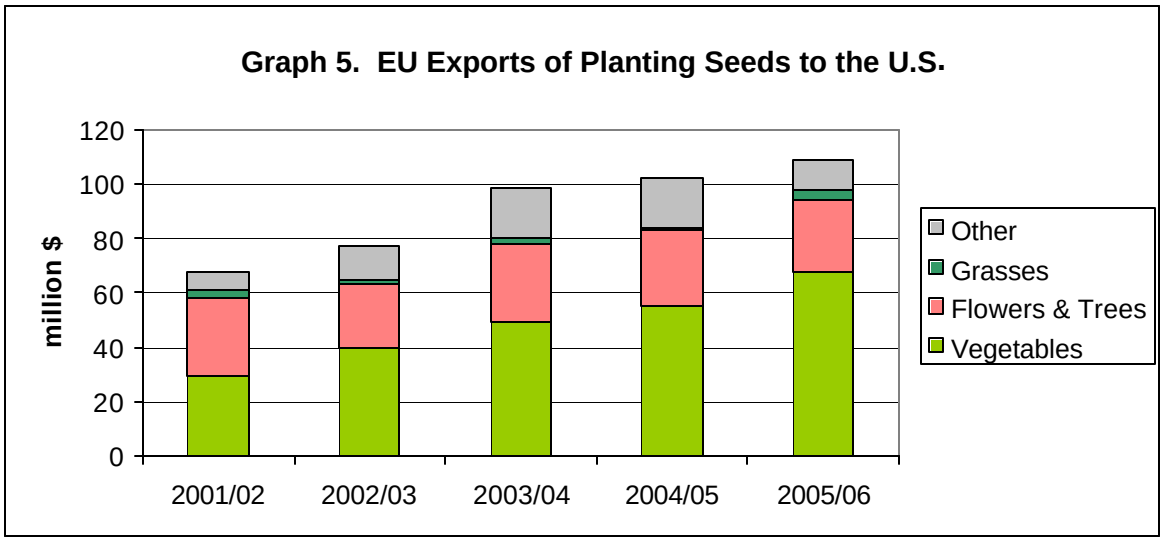
Graph 2. U.S./EU Trade for Planting Seeds

Graph 3. U.S. Exports of Planting Seeds to the EU



Graph 4. U.S. Market Share in EU Imports of Planting Seeds





Opportunities for U.S. companies exist in specialty seed markets, such as organic seeds, seeds for vegetables produced in greenhouses, seeds for ornamentals and specialty grass seeds for golf courses and sports fields. The trade in vegetable seeds between the EU and the United States is mainly dependent on intra company trade and cooperation. The trade in grass seed between the United States and Europe is mainly influenced by the fluctuations in yields and production and thus the supply and demand situation in the two markets, in combination with the USD / EURO exchange rate.

In general, acquisition of a European based company is regarded as the best entry strategy. The New Member States (NMS) in Central Europe offer a lot of opportunities as the markets are still developing. A part of the European planting seed production already shifted from the Western European countries to the NMS. Farmers in the NMS are increasingly aware of the need of high quality certified seeds in order to be able to compete on the EU or world market.

Until now, sales of genetically modified seeds for food and feed crops have been limited in the EU. Apart from the limits on biotech crops themselves, conventional U.S. planting seed exports to the EU are also impeded by fears of possible GMO co-mingling in shipments of non-biotech seed. If, however, pressure on farmers will increase to produce grains more competitively and with fewer chemical pesticides, the EU market for GM corn seed could improve. The use of GM varieties will also depend on the approval process and future traceability, labeling and coexistence regulations.

SECTION II. STATISTICAL TABLES

Planting Seeds Production (1,000 MT)						
	2001	2002	2003	2004	2005	2006
Grains	9,192	9,105	8,970	9,040	8,930	*8,900*
Wheat	4,397	4,465	4,330	4,370	4,320	*4,300*
Barley	2,489	2,443	2,462	2,430	2,360	*2,350*
Maize	337	347	365	400	410	*405*
Rice	83	81	79	89	81	*80*
Oilseeds	99	89	90	85	84	*88*
Rapeseed	22	21	23	19	21	*23*
Sunflowerseed	11	11	14	13	13	*13*
Soybeans	31	30	28	26	29	*30*
Grasses (a)	*145*	*150*	*145*	*190*	*190*	*200*
Pulses	428	401	415	410	395	*350*

Source: Eurostat (a) Estimation based on sector information.

Import Value of Planting Seeds (million USD) Season July / June					
	2001/2002	2002/2003	2003/2004	2004/2005	2005/2006
Grains and Oilseeds	**150**	**159**	**225**	**201**	**167**
United States	83	92	102	113	51
Chile	21	18	40	28	36
Turkey	15	17	24	33	29
Grasses	**21**	**34**	**40**	**47**	**35**
United States	13	19	21	23	17
Canada	3	3	8	11	10
New Zealand	2	6	7	8	6
Forages	**43**	**33**	**80**	**62**	**60**
Australia	27	14	49	27	23
New Zealand	4	4	6	9	12
Canada	3	2	7	8	7
Pulses	**30**	**32**	**35**	**32**	**30**
United States	21	22	20	19	19
Chile	2	4	4	4	5
Tanzania	4	3	7	4	4
Vegetables	**145**	**178**	**201**	**205**	**208**
United States	56	71	65	66	62
China	12	18	23	29	35
Israel	19	21	26	30	24
Flowers and Trees	**48**	**52**	**56**	**56**	**57**
United States	22	25	27	28	28
Japan	1	0	4	6	9
Chile	1	1	2	6	9
Other	**11**	**17**	**17**	**24**	**21**
United States	4	4	6	10	9
China	0	1	1	1	2
Chile	2	4	2	1	1
Total	**448**	**506**	**654**	**626**	**578**
United States	203	241	252	268	191
Chile	32	34	68	60	73
Turkey	13	20	26	37	45

Source: World Trade Atlas. During 2005/2006, possibly not all trade has yet been reported.

Export Value of Planting Seeds (million USD) Season July / June					
	2001/2002	2002/2003	2003/2004	2004/2005	2005/2006
Grains and Oilseeds	**56**	**172**	**123**	**122**	**141**
Russia	6	8	13	25	32
Ukraine	7	11	17	25	30
Romania	4	5	10	14	17
Grasses	**19**	**20**	**26**	**29**	**33**
Switzerland	4	4	6	9	7
United States	3	2	2	1	4
Turkey	1	2	2	3	4
Forages	**19**	**21**	**35**	**42**	**43**
Turkey	2	1	1	5	7
Russia	3	4	7	6	7
Romania	1	2	5	4	5
Pulses	**12**	**13**	**14**	**20**	**18**
Algeria	2	2	2	4	4
Serbia	0	0	0	0	1
Pakistan	1	0	0	0	1
Vegetables	**184**	**235**	**310**	**366**	**399**
United States	29	40	49	55	68
Turkey	13	19	20	24	29
Russia	7	10	17	17	22
Flowers and Trees	**48**	**45**	**51**	**53**	**54**
United States	29	23	29	28	26
Japan	5	5	4	4	4
Russia	2	2	2	4	4
Other	**84**	**117**	**162**	**170**	**189**
Russia	6	13	27	36	44
Morocco	6	9	12	15	13
Japan	5	7	5	9	12
Total	**421**	**622**	**720**	**803**	**876**
Russia	26	39	69	90	112
United States	68	77	99	102	109
Turkey	24	31	39	43	52

Source: World Trade Atlas. During 2005/2006, possibly not all trade has yet been reported.

Import Volume of Planting Seeds Season July / June, (MT)			
	2003/2004	2004/2005	2005/2006
Grains and Oilseeds	149,160	117,190	132,031
Grasses	34,033	37,566	27,686
Forages	250,212	131,302	129,640
Pulses	155,834	138,815	147,396
Vegetables	18,799	14,441	17,870
Flowers and Trees	1,035	953	1,399
Other	1,354	1,658	1,755
Total	610,427	441,925	457,777

Source: World Trade Atlas. During 2005/2006, possibly not all trade has yet been reported.

Export Volume of Planting Seeds Season July / June, (MT)			
	2003/2004	2004/2005	2005/2006
Grains and Oilseeds	75,974	45,445	55,797
Grasses	14,405	13,742	17,154
Forages	15,349	20,712	17,009
Pulses	16,288	18,527	20,234
Vegetables	14,952	13,695	14,818
Flowers and Trees	1,356	1,118	1,140
Other	10,655	11,273	11,370
Total	148,979	124,512	137,522

Source: World Trade Atlas. During 2005/2006, possibly not all trade has yet been reported.

Land Use Season July / June, (hectares)						
	2001	2002	2003	2004	2005	2006
Grains	52,687	52,799	51,444	52,628	51,582	51,000
Wheat	22,571	23,389	22,157	23,312	22,867	22,480
Barley	13,536	13,319	13,377	12,992	13,063	13,178
Maize (for grain)	6,272	6,198	6,213	6,488	6,066	5,789
Rice	400	399	409	427	405	393
Oilseeds	7,514	7,289	7,596	7,706	7,738	7,928
Rapeseed	4,069	4,186	4,058	4,515	4,699	5,107
Sunflowerseed	2,293	2,144	2,935	2,199	2,012	2,164
Soybeans	405	280	299	273	286	282
Permanent Grassland	57,124	56,719	56,433	50,463	50,267	50,275
Temporary Grasses	7,453	6,712	6,910	7,205	7,423	
Pulses	1,969	1,900	1,928	1,896	1,869	1,710

Source: Eurostat

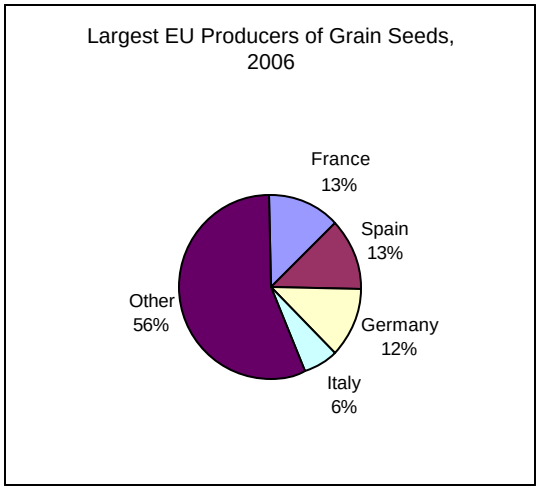
SECTION III. SUPPLY AND DEMAND, POLICY AND MARKETING

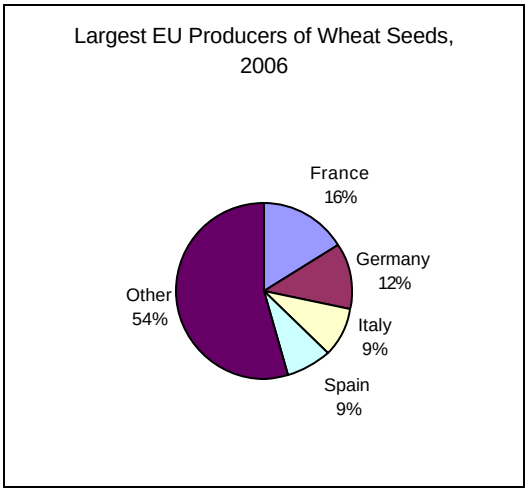
SUPPLY AND DEMAND

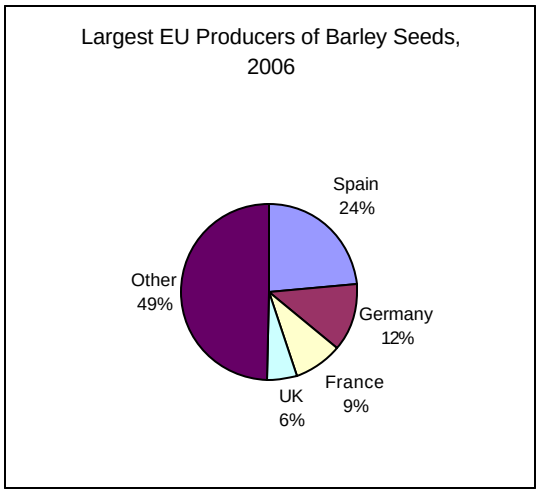
During the past five years, EU planting seeds imports increased from USD 448 million in 2001/2002 to USD 578 million in 2005/2006. During the same time span, EU exports of planting seeds increased continuously from USD 421 million to USD 876 million. Both growth in imports and exports is mainly attributable to a strong increase in the transshipment of vegetable seeds. During 2004/2005 and 2005/2006, imports of grain and oilseed seeds declined, mainly because of lower imports of hybrid corn seeds from the United States. It is, however, possible that not all trade has been reported to the World Trade Atlas (WTA).

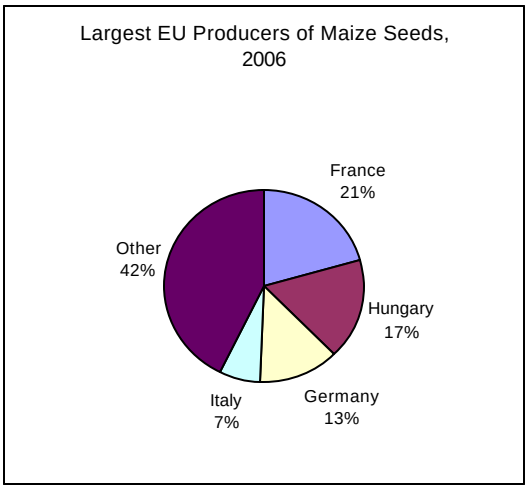
Grain and Oilseed Seeds

Domestic production: During the past five years, EU-25 cereal seed production has been fluctuating between 8.9 and 9.2 million MT. In 2006, EU production is estimated at 8.9 million MT. In 2007, EU grain seed production is anticipated to recover. Due to the current high grain prices, farmers reportedly increased their planting for grain seed production in 2007. For a large part of this acreage it is, however, still uncertain if the production will be used for planting or other purposes. France, Spain and Germany are the largest European producers of grain planting seeds, as indicated in the graphs below:









There are no hybrid varieties in barley, oats and only a very few in wheat production. In rye production, the share of hybrids is about sixty percent. Corn varieties for planting are nearly all hybrids. Consequently, the use of farm saved maize seed is negligible. According Eurostat statistics, on average about fifty percent of the wheat, barley and rye seed production consists of farm saved seed. In the New Member States (NMS), the percentage of farm saved seed is significantly higher. In Poland and Hungary, respectively, only about five and thirty percent of total grain seed production is based on certified seed production. A large percentage of farms, which are small and not oriented on commercial production, almost exclusively use seeds from on-farm reproduction. In Poland and Hungary, certified seed production and use declined strongly since they joined the EU. The main reason for this was the abolishment of national subsidies for producing grain and using certified seeds. Polish statistical data indicates that the declining tendency of using certified seeds has been stopped in 2006. It is expected that newly developed legislation will be approved soon and will encourage Polish farmers to use more certified seeds starting this spring. According this legislation, planting of certified seeds will entitle farmers for subsidies received within the "de minimis" support. Also, Hungarian producers and traders reportedly have begun to realize that the existing wheat markets, particularly in the EU, demand specific wheat qualities. This trend may help to boost the use of certified grain seed by Hungarian farmers. For more information about policies related to farm saved seed versus certified seed see also Chapter Policy - Variety Approval and Intellectual Property Rights.

In 2007, production of rapeseed for sowing is expected to increase due to the demand for rapeseed as a feedstock for biodiesel in the EU. Rapeseed seed is primarily produced in Germany and France. While sunflower seed for sowing is mainly produced in France, Spain and Hungary.

International trade: EU imports of grain seeds are negligible with the exception of maize seeds. In value, the most important grain and oilseed seeds imported by the EU are: hybrid maize seeds, sunflower seeds, cottonseeds and soybean seeds. The United States is the main supplier of maize and oilseed seeds to the EU. During 2005/2006, U.S. exports of hybrid maize seed to the EU more than halved. In particular, exports to France were affected. The main reasons for this reduction are: (1) the decline in demand for corn seeds, as corn acreage for production is shrinking; (2) the concern for the biotech content of U.S. corn planting seeds, mainly of events unauthorized in the EU; and (3) price competitiveness between U.S. and Chilean products. Because of the possibility of adventitious presence of GMOs in planting seeds lots, European buyers are reluctant to purchase maize seeds from

the United States and some countries in South America. This development has positively influenced maize seed production in Chile, Hungary, France and Turkey.

EU exports of grain and oilseed seeds consist predominantly of hybrid maize seeds and sunflower seeds for sowing. EU exports to its main markets, Russia, Ukraine, Romania and Bulgaria, increased steadily during the past five years.

Grass Planting Seeds

Domestic production: Important producers of grass seeds in the EU include: DLF-Trifoleum (Denmark), Hunsballe (Denmark), DSV (Germany), Euro Grass (Dutch company, part of Hunsballe and DSV), Innoseeds (Dutch company, part of DLF), Advanta (Dutch company, part of DLF) and Barenbrug (the Netherlands). The total EU-25 acreage of grass seed production is estimated at about 250,000 hectares in 2006. With an average production of about 800 kg per hectare, EU grass seed production is estimated at about 200,000 MT. The main producer is Denmark with about 110,000 MT (see GAIN Report DA6005), followed by Germany, the Netherlands and France with a production of each between the 25,000 and 40,000 MT. As a consequence of the acquisition by DLF of both Innoseeds and Advanta, a part of the Dutch grass seed production is possibly shifted to Denmark. Since the enlargement, production in the Czech Republic, Poland and Hungary increased. In 2006, the Polish acreage of registered grass seed production increased by over sixty percent. This increase can be explained by the intensification in dairy production, and as a consequence increased interest in improvement of pasture and forage production.

During 2003/2004 and 2004/2005, the market for grass seed has reportedly been strong with high prices. As a result, EU grass seed production surged in 2004. Due to an oversupply of the market, prices for the 2006 crop of all ryegrass species have been under downward pressure. On July 1, 2006, the Danish stock of grass seed was record high at 43,700 MT. Also the market for other grass seed species, such as Kentucky Bluegrasss, has been weak. During the autumn of 2006, sales of grass seeds, mainly Perennial ryegrass, recovered. This is partly due to the hot summer, which had a negative effect on the condition of the pastures in the EU.

Grass seed traders expect that next season's prices will increase due to an anticipated tight supply in 2007. In 2007, EU grass seed production is expected to decline as a result of increased production of grain and oilseeds for sowing. Farmers tend to shift their production due to the current low price for grass seeds in combination with the high grain prices. Due to the decoupling of government support (see Policy section) and introduction of the Single Farm Payment, farmers can more easily shift production. The reduction is mainly expected for Perennial ryegrass, Tall fescue and Red fescue. Because of the better margins, production of Kentucky Bluegrass is expected to remain stable. In Denmark, Perennial ryegrass acreage, 37,500 hectares in 2006, is expected to decline by 20 percent in 2007. Also, Danish acreage of Red fescue, 26,000 hectares in 2006, is anticipated to decline significantly in 2007. Some of these reductions might be compensated for by higher yielding varieties.

International trade: EU grass seed imports increased steadily from 2001/2002 to 2004/2005. In 2005/2006, grass seed imports declined but possibly not all the trade has yet been reported. The main suppliers to the EU are the United States with mainly Kentucky Bluegrass seed, Vetch seed, and Fescue seed, and Canada with Timothy grass seed, Red fescue seed, and Perennial ryegrass seed. EU grass seed exports show a steady increase since 2001/2002. The main species exported are Perennial ryegrass seed, Vetch seed and Red fescue seed. The main markets are Switzerland, the United States and Turkey.

Traditionally, U.S. exports of grass seeds to the EU consist mainly of high quality Blue grasses, used for golf courses and athletic fields. About fifty percent of EU demand (90,000 – 100,000 MT) is for use on sports fields, lawns and golf courses. In 2006, sales of some Kentucky Bluegrass varieties declined due to the relatively high price. In 2007, the market for Perennial ryegrass and Kentucky Bluegrass is expected to be tighter as production is expected to decline. It is, however, a question if the United States can benefit, as the supply of Kentucky Bluegrass is tight in the United States too. Important factors which influence U.S. exports to the EU, mentioned by traders, are the supply demand situation on the U.S. domestic market and EURO / USD exchange rate.

Horticultural Seeds

Domestic production: Important producers of vegetable planting seeds in the EU include: Seminis (parent company Monsanto), Syngenta, Vilmorain-Clause, Nunhems (parent company Bayer), ENZA, Rijk Zwaan, Bejo, and De Ruiter Seeds. A major part of the vegetable seed production is produced outside the EU. The seeds are produced in a wide geographical range of countries and continents in order to have stable production across the seasons, and to spread the risk of crop failure. Due to the high labor costs, vegetative reproduction is increasingly moved to African and Middle American countries. Ornamental plants and flowers are mainly reproduced by vegetative propagation. The reproduced seeds are shipped to the EU, in particular to the Netherlands, for treatment, sampling and quality inspection and mostly re-exported to their final destination. The vegetable seeds production that remains in the EU, increasingly consists of expensive seeds such as tomato, pepper and lettuce seeds, and breeder's seeds used for seed production. The United States is an important destination for these breeder's seeds, in particular lettuce, carrot, beet and cabbage seed.

International trade: Between 2001/2002 and 2005/2006, EU vegetable, flower and tree seed imports increased by nearly forty percent. Important exporters to the EU are the United States, China and Israel. The United States mainly exports carrot, tomato, onion, watermelon, cucumber and lettuce seed to the EU.

POLICY

Common Agricultural Policy

An important issue for the planting seed sector is the CAP reforms by which the farm subsidies are decoupled from production. In ten of the twenty-five EU Member States the decoupling started on January 1, 2006. Denmark implemented the CAP reform effective January 1, 2005. The Dutch government decided to postpone the decoupling of support by one year and to flax seed producers by four years. In Spain, Italy and Portugal, the support remains reportedly coupled for the production of all seed species. A positive effect of the CAP reforms is that they give more flexibility to the farmer in choosing crops, which will eventually lead to more opportunities to seed companies. In Greece for instance, crop production of sugar beets, tobacco and cotton is strongly affected under the new policies and farmers either abandon the production of field crops or shift to other crops they can grow. Trade sources expect that the decoupling of EU support could also have a negative effect on the profitability of the production of some grass seed varieties. Crops for which production is expected to be increased as a result of the reforms are cereals, rapeseed, sunflower seed, field vegetables, forage plants and to a lesser extend tree crops like almonds, wood, pistachios and new promoted varieties of citrus and deciduous fruit.

Variety Approval and Intellectual Property Rights

Each member state of the EU is required to maintain a national catalogue or list of approved varieties, which can be marketed without restrictions in the country. The European Commission (EC) consolidates the national catalogues into a common catalogue of agricultural plant species and a common catalogue of vegetable species. Varieties, which are not listed in a national or the common catalogue, cannot be legally marketed in the EU. Seed companies can, however, use unregistered seed for private use, or contract a farmer to grow these seeds under the seed companies' direction. Farmers are also entitled to use farm saved seed, produced on their own farm. It is, however, not permitted to market farm saved seed. Governmental support programs, however, oblige farmers to use certified seed for the production of durum wheat and flax (see EC Regulation 1251/99/EC and 2316/99/EC). For more information about the national and common catalogues go to: http://ec.europa.eu/food/plant/propagation/catalogues/index_en.htm

Applications for plant breeders' rights (PBRs) and catalogue listing should be filed at the National Plant Variety Offices. In order to be listed, varieties must meet standards for DUS (distinctness, uniformity and stability) and, for agricultural plant species also for VCU (value for cultivation and use). The DUS and VCU tests are conducted by authorized research institutes or under supervision of these research institutes.

The national PBRs and the Community Plant Variety Right (CPVR) are the exclusive intellectual property rights in the EU for the protection of plant varieties, since the European Patent Convention (EPC) of October 1973 excludes plant varieties from patentability. The CPVR is a form of intellectual property similar to a patent. The holder of the plant variety patent receives the exclusive right to propagate and trade this variety. Other parties may receive this right on approval of the holder. The Community Plant Variety Office (CPVO) in Angers (France) implements and applies the system for the protection of plant variety rights in the EU (see website: http://www.cpvo.europa.eu). On the basis of one application to the CPVO, a breeder may be granted a single intellectual property right that is operative throughout the EU. For more information about intellectual property rights in the EU go to: http://ec.europa.eu/food/plant/propertyrights/index_en.htm

The EU is a member of the International Union for the Protection of New Varieties of Plants (UPOV) treaty. In 1994, EU regulation 2100/94/EC was adopted to implement UPOV 1991 in the EU member states. National PBRs in EU Member States are offered on the basis of the different Acts of 1961/1972, 1978 or 1991 of the UPOV Convention. Luxembourg, Greece, Malta and Cyprus are not parties to the UPOV Convention. For more information go to: http://www.upov.int/index.html

The UPOV 1991 Act allows farmers to sow farm saved agricultural seeds of PBR protected varieties on their own farm if they pay a royalty each year to the breeder. In Europe, there is an increasing problem with illegal propagation of planting seeds and the illegal vegetative reproduction of ornamental plants and vegetables. A survey of European Seed Association (ESA) members estimated the loss in owners' revenues as a result of illegal use of wheat, barley, rye and rapeseed use at Euro 65 million.

Plant and Seed Health and Certification

Seed Directives

The EC Directives on the marketing of agricultural and vegetable seeds aim to improve the quality of seeds marketed in the EU. According to these directives, planting seeds can be traded within EU, only if they are certified according to minimum quality requirements determined in the directives. The main consolidated directives are:

Marketing of:	Council Directive
Cereal seed	66/402/EEC
Seed of oil and fibre plants	2002/57/EC
Fodder plant seed	66/401/EEC
Beet seed	2002/54/EC
Vegetable seed	2002/55/EC
Vegetable propagating material, other than seed	92/33/EEC
Fruit plant propagating material	92/34/EEC
Propagating material of ornamental plants	98/56/EC
Forest reproductive material	99/105/EC

EC regulations and health measures for seeds and seedlings can be downloaded from: http://eur-lex.europa.eu/en/repert/035040.htm. More background information about the EC legislation can be found on: http://ec.europa.eu/food/plant/propagation/index_en.htm

If technical amendments and updates of the Seed Directives are necessary, the EC is assisted by Member States in adopting measures through the Standing Committee on Seeds and Propagating Material for Agriculture, Horticulture and Forestry. See for more information the website: http://ec.europa.eu/food/fs/rc/scsp/index_en.html.

Phytosanitary Directive

In Directive 2000/29/EC protective measures against the introduction into the EU of organisms harmful to plants or plant products are laid down. The Council Directive contains provisions concerning the compulsory plant health checks to be carried out on certain plants and plant coming from third countries. More information about the aim and implementation of Directive 2000/29/EC can be found on:
http://ec.europa.eu/food/plant/organisms/index_en.htm

According Directive 2000/29/EC, plant products, including seeds and other propagation material, must be accompanied by a phytosanitary certificate, issued by the National Plant Protection Organization of the exporting country. More information about the import of plant products can be found on:
http://ec.europa.eu/food/plant/organisms/imports/index_en.htm

Biotechnology

On July 23, 2003, the European Council of Ministers agreed upon legislation for tracing and labeling of biotech products. Pending regulations on biotech tolerances have yet to be established by the Seeds Directives. The European Seed Association (ESA) argues that small and medium sized businesses will be vulnerable to legal claims based on uncertain regulations over adventitious presence of GM material in conventional seeds.

According several sector sources, European maize producers are increasingly in need of genetically enhanced seeds in order to be able to fight pests (such as the wireworm, corn borer, and corn rootworm) and compete with producers using GM seeds, either outside the EU or in other Member States such as Spain. The demand for corn variety MON 810 is reportedly growing. In Hungary, the corn borer is not a major pest, and there is lower demand for biotech hybrids such as MON 810 (see GAIN Report HU6015). The increasingly arid “corn belt” countries of Europe are also in need of genetically enhanced varieties to fight drought. In France, biotech acreage has grown from 500 ha in 2005 to 5,000 ha in 2006 and is forecast to increase significantly in 2007 (see GAIN Report FR6037).

In the Benelux, demand for GM crops by farmers is largely absent. The Dutch starch company Avebe is developing a genetically modified potato with elevated amylopectin content. It is unknown when Avebe will start commercial production of their GM potato breed. The Danish grass seed company DLF-Trifoleum has resumed GMO research and wants to be the first to develop GM grasses (see GAIN Report DA6005). For more information about the status of agricultural biotechnology in the individual EU Member States see the individual GAIN reports.

Apart from the limits on biotech crops themselves, conventional U.S. planting seed exports to the EU are also impeded by fears of possible GMO co-mingling in shipments of non-biotech seed. For importers, the zero tolerance for non-approved GM varieties is considered to be a major barrier for continuing imports from the United States. For more information about biotechnology and planting seeds go to:
http://ec.europa.eu/food/plant/gmplants/index_en.htm.

MARKETING

Competitor Programs

The European Seed Association (ESA) represents the European seed industry, including the companies which are active in research, breeding, production and marketing of seeds of agricultural, horticultural an ornamental plant species. See also the website of ESA: http://www.euroseeds.org/.

Increasing costs for research and development in the plant breeding and propagation sector have led to concentration of the seed industry in the EU. This trend is expected to continue or even accelerate. The concentration started with the companies producing grain seeds, followed by companies specialized in vegetable seeds. The ornamental seed sector is still relatively fragmented. Another trend seen in the EU is the formation of chains. A condition for companies to survive the competition is to develop the capability for research and development as well as production and marketing. Another development is that seed companies are increasingly taken over by large agrochemical companies. With this strategy, the agrochemical companies are able to market seeds in combination with their pesticide brands.

The EU seed sector is increasingly more consumer driven instead of production driven. Important properties of food products are appearance and taste. The breeding programs are also influenced by consumer trends, such as convenience, health and obesity. Other properties, which are being selected, are related to specific climatic conditions such as drought and salt tolerance. Costs savings are another important factor in the breeding programs.

Organic Seeds

Regulation EC/2092/91 prescribes the use of organic seeds. The EC decided that no further derogations to use non-organic seeds in the production of organic crops would be provided from 1 January 2004 onwards. However, closer to that date the EC determined that derogations should remain possible if there are insufficient organic seeds available on the market. To make this possible, Regulation EC/1452/2003, was developed. In the opinion of many seed producers, the derogation to use non-organic seeds is too easily given and undermines investments in the production of organic seeds. Some organic farmers reportedly prefer to use conventional seeds because of the lower costs and the larger choice in the number of varieties. In Hungary, for instance, an important exporter of organic crops, use of organic seeds is reportedly minimal. The number of varieties of organically multiplied

seeds for the European market is estimated to be about 600. If the conditions for issuing derogations are tightened, opportunities could arise for organic seeds produced in the United States, in particular grass seed (see GAIN Report DA6005). The standards for organic seeds are, however, different between the United States and the EU. For more information go to: http://useu.usmission.gov/agri/organic.html.

Related reports from FAS EU:

Country	Title	Date	Report Number
France	Planting Seeds Annual 2006	11/21/2006	FR6071
The Netherlands	Planting Seeds Annual 2006	11/14/2006	NL6041
Denmark	Planting Seeds Annual 2006	05/03/2006	DA6005
Poland	Poland Bans the Sale and Registration of Biotech Seeds	04/28/2006	PL6025
Greece	Planting Seeds Annual 2005	11/18/2005	GR5030

The GAIN Reports can be downloaded from the following FAS website: http://www.fas.usda.gov/scriptsw/attacherep/default.asp